RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/644,123A
Source: IFW16
Date Processed by STIC: 2-4-05

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IFW16

RAW SEQUENCE LISTING DATE: 02/04/2005
PATENT APPLICATION: **US/10/644,123A** TIME: 07:26:30

Input Set : **D:\UF-314XC1.txt**
Output Set: **N:\CRF4\02042005\J644123A.raw**

<110> APPLICANT: Richards, Nigel Gordon John
Chang, Christopher Harry
Peck, Ammon B.
<120> TITLE OF INVENTION: Polunucleotides Encoding Oxalate Decarboxylase from Aspergillus
Niger and Methods of Use
<130> FILE REFERENCE: UF-314XC1
<140> CURRENT APPLICATION NUMBER: US 10/644,123A
<141> CURRENT FILING DATE: 2003-08-20
<150> PRIOR APPLICATION NUMBER: US 60/404,892
<151> PRIOR FILING DATE: 2002-08-20
<160> NUMBER OF SEQ ID NOS: 10
<170> SOFTWARE: PatentIn version 3.2
<210> SEQ ID NO: 1
<211> LENGTH: 1397
<212> TYPE: DNA
<213> ORGANISM: Aspergillus niger
<400> SEQUENCE: 1

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tgagcccttg ccctggcgca tgggagatgg agccaccatc atgggacccc gcaacaagga    180
ccgtgagcgc cagaaccccg acatgctccg tcctccgagc accgaccatg gcaacatgcc    240
gaacatgcgg tggagctttg ctgactccca cattcgcatt gaggtaagcc cttcgagagt    300
cttgtgtacg acaagcaaaa taggctaatg cactgcagga gggcggctgg acacgccaga    360
ctaccgtacg cgagctgcca acaagcaggg agcttgctgg agtaaacatg cgccttgatg    420
agggtgtcat tcgcgagctg cactggcatc gggaagcaga gtgggcgtat gtgctggccg    480
gacgtgtacg agtgactggt cttgacctgg agggaggcag cttcatcgat gacctggaag    540
agggtgacct ctggtacttc ccatcgggcc atccccattc acttcagggt ctcagtccta    600
atggcaccga gttcttactg atcttcgacg atggaaactt ttccgaggag tcaacgttct    660
tgttgaccga ctggatcggt atgtccatca ctatgctgtt gtacaacctc cacaaaaata    720
ctaacaatgc tataaaacag cacatacacc caagtctgtc ctcgccggaa acttccgcat    780
gcgcccacaa acattcaaga acatcccacc atctgaaaag tacatcttcc agggctctgt    840
cccagactct atccccaaag aacttccccg caacttcaaa gcatccaagc agcgcttcac    900
gcataagatg ctcgctcaag aacccgagca tacctctggc ggagaggtgc gcatcacaga    960
ctcgtccaac tttcccatct ccaagacggt cgcggccgcc cacctgacca ttaacccggg   1020
cgctatccgg gagatgcact ggcatcccaa tgcggatgaa tggtcctact ttaagcgcgg   1080
tcgggcgcga gtgactatct tcgctgctga aggtaatgct cgtacattcg actacgtagc   1140
gggagatgtg ggcattgttc ctcgcaacat gggtcatttc attgagaacc tcagtgatga   1200
cgaggaggtc gaggtgttgg aaatcttccg ggcggaccga ttccgggact tttcgttgtt   1260
ccagtggatg ggagagacgc cgcagcggat ggtggcagag catgtgttta aggatgatcc   1320
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cccaagtgag tagatga                                                  1397
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<210> SEQ ID NO: 2
<211> LENGTH: 1280

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Input Set : D:\UF-314XC1.txt
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<212> TYPE: DNA
<213> ORGANISM: Aspergillus niger
<400> SEQUENCE: 2
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tgagcccttg ccctggcgca tgggagatgg agccaccatc atgggacccc gcaacaagga 180
ccgtgagcgc cagaaccccg acatgctccg tcctccgagc accgaccatg gcaacatgcc 240
gaacatgcgg tggagctttg ctgactccca cattcgcatt gaggagggcg gctggacacg 300
ccagactacc gtacgcgagc tgccaacaag caaggagctt gctggagtaa acatgcgcct 360
tgatgagggt gtcattcgcg agctgcactg gcatcgggaa gcagagtggg cgtatgtgct 420
ggccggacgt gtacgagtga ctggtcttga cctggaggga ggcagcttca tcgatgacct 480
ggaagagggt gacctctggt acttcccatc gggccatccc cattcacttc agggtctcag 540
tcctaatggc accgagttct tactgatctt cgacgatgga aacttttccg aggagtcaac 600
gttcttgttg accgactgga tcgcacatac acccaagtct gtcctcgccg gaaacttccg 660
catgcgccca caaacattca agaacatccc accatctgaa aagtacatct tccagggctc 720
tgtcccagac tctatcccca aagaacttcc ccgcaacttc aaagcatcca agcagcgctt 780
cacgcataag atgctcgctc aagaacccga gcatacctct ggcggagagg tgcgcatcac 840
agactcgtcc aactttccca tctccaagac ggtcgcggcc gcccacctga ccattaaccc 900
gggcgctatc cgggagatgc actggcatcc caatgcggat gaatggtcct actttaagcg 960
cggtcgggcg cgagtgacta tcttcgctgc tgaaggtaat gctcgtacat tcgactacgt 1020
agcgggagat gtgggcattg ttcctcgcaa catgggtcat ttcattgaga acctcagtga 1080
tgacgaggag gtcgaggtgt tggaaatctt ccgggcggac cgattccggg acttttcgtt 1140
gttccagtgg atgggagaga cgccgcagcg gatggtggca gagcatgtgt ttaaggatga 1200
tccagatgcg gccagggagt tccttaagag tgtggagagc ggggagaagg atccgattcg 1260
gagcccaagt gagtagatga 1280
<210> SEQ ID NO: 3
<211> LENGTH: 424
<212> TYPE: PRT
<213> ORGANISM: Aspergillus niger
<400> SEQUENCE: 3
Tyr Gln Gln Leu Leu Gln Ile Pro Ala Ser Ser Pro Ser Ile Phe Phe
1 5 10 15
Gln Asp Lys Pro Phe Thr Pro Asp His Arg Asp Pro Tyr Asp His Lys
20 25 30
Val Asp Ala Ile Gly Glu Gly His Glu Pro Leu Pro Trp Arg Met Gly
35 40 45
Asp Gly Ala Thr Ile Met Gly Pro Arg Asn Lys Asp Arg Glu Arg Gln
50 55 60
Asn Pro Asp Met Leu Arg Pro Pro Ser Thr Asp His Gly Asn Met Pro
65 70 75 80
Asn Met Arg Trp Ser Phe Ala Asp Ser His Ile Arg Ile Glu Glu Gly
85 90 95
Gly Trp Thr Arg Gln Thr Thr Val Arg Glu Leu Pro Thr Ser Arg Glu
100 105 110
Leu Ala Gly Val Asn Met Arg Leu Asp Glu Gly Val Ile Arg Glu Leu
115 120 125
His Trp His Arg Glu Ala Glu Trp Ala Tyr Val Leu Ala Gly Arg Val
130 135 140
Arg Val Thr Gly Leu Asp Leu Glu Gly Gly Ser Phe Ile Asp Asp Leu

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Input Set : D:\UF-314XC1.txt
Output Set: N:\CRF4\02042005\J644123A.raw

```
172 145                 150                 155                 160
175 Glu Glu Gly Asp Leu Trp Tyr Phe Pro Ser Gly His Pro His Ser Leu
176                 165                 170                 175
179 Gln Gly Leu Ser Pro Asn Gly Thr Glu Phe Leu Leu Ile Phe Asp Asp
180             180                 185                 190
183 Gly Asn Phe Ser Glu Glu Ser Thr Phe Leu Leu Thr Asp Trp Ile Ala
184         195                 200                 205
187 His Thr Pro Lys Ser Val Leu Ala Gly Asn Phe Arg Met Arg Pro Gln
188     210                 215                 220
191 Thr Phe Lys Asn Ile Pro Pro Ser Glu Lys Tyr Ile Phe Gln Gly Ser
192 225                 230                 235                 240
195 Val Pro Asp Ser Ile Pro Lys Glu Leu Pro Arg Asn Phe Lys Ala Ser
196                 245                 250                 255
199 Lys Gln Arg Phe Thr His Lys Met Leu Ala Gln Glu Pro Glu His Thr
200             260                 265                 270
203 Ser Gly Gly Glu Val Arg Ile Thr Asp Ser Ser Asn Phe Pro Ile Ser
204         275                 280                 285
207 Lys Thr Val Ala Ala Ala His Leu Thr Ile Asn Pro Gly Ala Ile Arg
208     290                 295                 300
211 Glu Met His Trp His Pro Asn Ala Asp Glu Trp Ser Tyr Phe Lys Arg
212 305                 310                 315                 320
215 Gly Arg Ala Arg Val Thr Ile Phe Ala Ala Glu Gly Asn Ala Arg Thr
216                 325                 330                 335
219 Phe Asp Tyr Val Ala Gly Asp Val Gly Ile Val Pro Arg Asn Met Gly
220             340                 345                 350
223 His Phe Ile Glu Asn Leu Ser Asp Asp Glu Glu Val Glu Val Leu Glu
224         355                 360                 365
227 Ile Phe Arg Ala Asp Arg Phe Arg Asp Phe Ser Leu Phe Gln Trp Met
228     370                 375                 380
231 Gly Glu Thr Pro Gln Arg Met Val Ala Glu His Val Phe Lys Asp Asp
232 385                 390                 395                 400
235 Pro Asp Ala Ala Arg Glu Phe Leu Lys Ser Val Glu Ser Gly Glu Lys
236                 405                 410                 415
239 Asp Pro Ile Arg Ser Pro Ser Glu
240             420
243 <210> SEQ ID NO: 4
244 <211> LENGTH: 409
245 <212> TYPE: PRT
246 <213> ORGANISM: Aspergillus niger
248 <400> SEQUENCE: 4
250 Phe Gln Asp Lys Pro Phe Thr Pro Asp His Arg Asp Pro Tyr Asp His
251 1               5                   10                  15
254 Lys Val Asp Ala Ile Gly Glu Gly His Glu Pro Leu Pro Trp Arg Met
255             20                  25                  30
258 Gly Asp Gly Ala Thr Ile Met Gly Pro Arg Asn Lys Asp Arg Glu Arg
259         35                  40                  45
262 Gln Asn Pro Asp Met Leu Arg Pro Pro Ser Thr Asp His Gly Asn Met
263     50                  55                  60
266 Pro Asn Met Arg Trp Ser Phe Ala Asp Ser His Ile Arg Ile Glu Glu
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Input Set : D:\UF-314XC1.txt
Output Set: N:\CRF4\02042005\J644123A.raw

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267 65                  70                  75                  80
270 Gly Gly Trp Thr Arg Gln Thr Thr Val Arg Glu Leu Pro Thr Ser Arg
271                 85                  90                  95
274 Glu Leu Ala Gly Val Asn Met Arg Leu Asp Glu Gly Val Ile Arg Glu
275             100                 105                 110
278 Leu His Trp His Arg Glu Ala Glu Trp Ala Tyr Val Leu Ala Gly Arg
279         115                 120                 125
282 Val Arg Val Thr Gly Leu Asp Leu Glu Gly Gly Ser Phe Ile Asp Asp
283     130                 135                 140
286 Leu Glu Glu Gly Asp Leu Trp Tyr Phe Pro Ser Gly His Pro His Ser
287 145                 150                 155                 160
290 Leu Gln Gly Leu Ser Pro Asn Gly Thr Glu Phe Leu Leu Ile Phe Asp
291                 165                 170                 175
294 Asp Gly Asn Phe Ser Glu Glu Ser Thr Phe Leu Leu Thr Asp Trp Ile
295             180                 185                 190
298 Ala His Thr Pro Lys Ser Val Leu Ala Gly Asn Phe Arg Met Arg Pro
299         195                 200                 205
302 Gln Thr Phe Lys Asn Ile Pro Pro Ser Glu Lys Tyr Ile Phe Gln Gly
303     210                 215                 220
306 Ser Val Pro Asp Ser Ile Pro Lys Glu Leu Pro Arg Asn Phe Lys Ala
307 225                 230                 235                 240
310 Ser Lys Gln Arg Phe Thr His Lys Met Leu Ala Gln Glu Pro Glu His
311                 245                 250                 255
314 Thr Ser Gly Gly Glu Val Arg Ile Thr Asp Ser Ser Asn Phe Pro Ile
315             260                 265                 270
318 Ser Lys Thr Val Ala Ala Ala His Leu Thr Ile Asn Pro Gly Ala Ile
319         275                 280                 285
322 Arg Glu Met His Trp His Pro Asn Ala Asp Glu Trp Ser Tyr Phe Lys
323     290                 295                 300
326 Arg Gly Arg Ala Arg Val Thr Ile Phe Ala Ala Glu Gly Asn Ala Arg
327 305                 310                 315                 320
330 Thr Phe Asp Tyr Val Ala Gly Asp Val Gly Ile Val Pro Arg Asn Met
331                 325                 330                 335
334 Gly His Phe Ile Glu Asn Leu Ser Asp Asp Glu Glu Val Glu Val Leu
335             340                 345                 350
338 Glu Ile Phe Arg Ala Asp Arg Phe Arg Asp Phe Ser Leu Phe Gln Trp
339         355                 360                 365
342 Met Gly Glu Thr Pro Gln Arg Met Val Ala Glu His Val Phe Lys Asp
343     370                 375                 380
346 Asp Pro Asp Ala Ala Arg Glu Phe Leu Lys Ser Val Glu Ser Gly Glu
347 385                 390                 395                 400
350 Lys Asp Pro Ile Arg Ser Pro Ser Glu
351                 405
354 <210> SEQ ID NO: 5
355 <211> LENGTH: 21
356 <212> TYPE: DNA
357 <213> ORGANISM: Artificial sequence
359 <220> FEATURE:
360 <223> OTHER INFORMATION: PCR primer
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PATENT APPLICATION: US/10/644,123A TIME: 07:26:30

Input Set : D:\UF-314XC1.txt
Output Set: N:\CRF4\02042005\J644123A.raw

<400> SEQUENCE: 5
gtcctcgaga aaagatacca g 21
<210> SEQ ID NO: 6
<211> LENGTH: 27
<212> TYPE: DNA
<213> ORGANISM: Artificial sequence
<220> FEATURE:
<223> OTHER INFORMATION: PCR primer
<400> SEQUENCE: 6
tcatctactc acttgggctc cgaattg 27
<210> SEQ ID NO: 7
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Aspergillus niger
<400> SEQUENCE: 7
Phe Gln Asp Lys Pro Phe Thr Pro Asp His Arg
1 5 10
<210> SEQ ID NO: 8
<211> LENGTH: 4
<212> TYPE: PRT
<213> ORGANISM: Artificial sequence
<220> FEATURE:
<223> OTHER INFORMATION: Anticipated N-terminal sequence of oxalate decarboxylase of Aspergillus niger
<400> SEQUENCE: 8
Tyr Gln Gln Asp
1
<210> SEQ ID NO: 9
<211> LENGTH: 385
<212> TYPE: PRT
<213> ORGANISM: Bacillus subtilis
<400> SEQUENCE: 9
Met Lys Lys Gln Asn Asp Ile Pro Gln Pro Ile Arg Gly Asp Lys Gly
1 5 10 15
Ala Thr Val Lys Ile Pro Arg Asn Ile Glu Arg Asp Arg Gln Asn Pro
20 25 30
Asp Met Leu Val Pro Pro Glu Thr Asp His Gly Thr Val Ser Asn Met
35 40 45
Lys Phe Ser Phe Ser Asp Thr His Asn Arg Leu Glu Lys Gly Gly Tyr
50 55 60
Ala Arg Glu Val Thr Val Arg Glu Leu Pro Ile Ser Glu Asn Leu Ala
65 70 75 80
Ser Val Asn Met Arg Leu Lys Pro Gly Ala Ile Arg Glu Leu His Trp
85 90 95
His Lys Glu Ala Glu Trp Ala Tyr Met Ile Tyr Gly Ser Ala Arg Val
100 105 110
Thr Ile Val Asp Glu Lys Gly Arg Ser Phe Ile Asp Asp Val Gly Glu
115 120 125
Gly Asp Leu Trp Tyr Phe Pro Ser Gly Leu Pro His Ser Ile Gln Ala

VERIFICATION SUMMARY DATE: 02/04/2005
PATENT APPLICATION: **US/10/644,123A** TIME: 07:26:31

Input Set : **D:\UF-314XC1.txt**
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